

IN THE SPECIFICATION:

Page 1, before the first full paragraph and after the Title, insert the following heading:

BACKGROUND OF THE INVENTION

Page 2, after the second full paragraph insert the following heading:

SUMMARY OF THE INVENTION

Page 2, amend the fifth full paragraph as follows:

B1 In accordance with one aspect of the present invention, there is provided a method of determining leakage from a fluid system comprising sensing the vibrations induced by passage of the fluid through the leakage, segmenting the sensed vibrations into at least two spectral bands, comparing the amplitudes of the spectral bands with predetermined values to determine the flow rate.

Page 3, after the second full paragraph insert the following heading:

B2 BRIEF DESCRIPTION OF THE DRAWINGS

Page 4, after the third full paragraph, insert the following heading:

B3

DETAILED DESCRIPTION OF THE DRAWINGS

Page 4, amend the fifth full paragraph as follows:

B4 In accordance with the present invention, a flow meter or sensor is ~~utilised~~ utilized which makes use of the phenomenon of fluid flowing in pipes giving rise to acoustically- and seismically-coupled emissions. These emissions vary in amplitude and spectral content as the flow rate changes, and are affected, in varying degrees, by the size of pipe, what the pipe is made of, and by the presence of any bends or connections near to a point at which the emissions are measured.

Page 5, amend the third full paragraph as follows:

B5 Experiments were carried out on a domestic plumbing system to indicate the basis of operation of a sensor in accordance with the present invention. The plumbing system used consisted of 15mm outside-diameter, soldered copper piping. Vibration measurements were taken at a point on an inlet pipe to the system close to the main stopcock as water flowed from a tap some 2.5m away from the main stopcock. There were no other flows in the system ~~whilst~~ while these measurements were taken.

Page 8, amend the second full paragraph as follows:

B6
The 15kHz bandwidth curve is reproduced alone in Figure 4. A continuous curve 120 is used to ~~joins~~ join up five measured points 142, 44, 46, 48, 50 (using a smoothing function), and a straight line fit to this is shown by dotted line 52. For example, point 44 can be considered as relating to a dripping tap. Pouring a glass of water has a flow rate of around 110l/min and running a bath or having a garden sprinkler on has a flow rate of around 120l/min.

Page 16, amend the third full paragraph as follows:

B7
A further addition is to include sensor 154 in pipe 130. This will enable the system to determine differences between the flow to the outside tap 122 on the ground floor, what flows to the downstairs equipment (e.g. cloakroom 118) and what is flowing to the first floor. Again, with some simple logical and measurement capability, ~~localisation~~ localization of the water demand or leakage can be quickly made by the processing unit 14.

Page 18, amend the first full paragraph as follows:

B8
If the processing unit 14 determines that the presence and, ideally, the location of a leakage, this information is used to alert a consumer that there is a problem. This information could be used locally, or in the future considered for connecting to a micro-web server, so that it could be made available to relatives, ~~neighbours~~, neighbors, the local police or other interested/responsible parties.